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Steve Ryan
ENERGY STAR Program
Roof Products Program Manager
U.S. Environmental Protection Agency
Subject: ENERGY STAR® v3.0 Draft 3 Specification for Roofs

September 30, 2013

Dear Mr. Ryan,

The Cool Roof Rating Council (CRRC) appreciates the opportunity to comment on the Version 3.0 Roof Products Specification. The CRRC's Product Rating Program has operated for over 10 years and works with technical experts to develop test methods and protocols with the objective of producing accurate ratings for roofing products. We have also participated in the ENERGY STAR program as a Certification Body since the program enhancements in 2010. Please find our specific recommendations below.

1. Support for 3 Climate Zones

The CRRC commends EPA's decision to require product weathering in three climate zones to satisfy the maintenance of solar reflectance requirements. As is displayed in the attached technical supplement, aged solar reflectance values may vary greatly between climate zones. While the hot/humid climate zone usually yields the most conservative aged solar reflectance value, it occurs only 46 percent of the time. Additionally, while any one climate zone would yield the most accurate values for that location, an average of three climate zones in the continental United States is more accurate for a nationwide program. Therefore, an averaged value is a critical component for a nationally-recognized certification like ENERGY STAR.

2. Verifying Thickness via Measurements

ENERGY STAR Version 3.0, Draft 3 requirements do not include the measurement of the thickness of field-applied coatings. The CRRC recommends that EPA require the dry mil thickness measurement of field-applied coating samples in order to verify that these products meet manufacturer specifications. The CRRC believes that the aged results of coatings products are influenced by the products' thickness. Therefore, the CRRC Product Rating Program requires that sample thickness be within 20% of the manufacturer's recommended thickness. The CRRC recommends that EPA reference the CRRC-1 Program Manual section 2.2.7, which accepts ASTM D1005 (2007) and ASTM D7091 (2005) for thickness measurement by micrometers and electronic thickness gauges, respectively.

3. CRRC-1 Test Method 1 for Asphalt Shingle Products

The Asphalt Roofing Manufacturer's Association (ARMA) provided comments expressing concern that the standard roofing product rating process of taking three measurement points would not be enough to accurately capture the solar reflectance of asphalt shingle products. The CRRC supports these comments and recommends that EPA measure products with significant variegation, such as asphalt shingles with a



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blend of different colored granules, using CRRC-1 Test Method #1, as this test method is designed to evaluate products with multiple colors.

4. Slide Method for Thermal Emittance

The Version 3.0, Draft 3 specifications require testing thermal emittance with ASTM C1371, and allow for the optional use of the Slide Method. In 2011, the CRRC conducted a study evaluating the difference between C1371 and Slide Method test results. The results of this study led to the CRRC's adoption of the Slide Method for all product types, except coatings on un-insulated metal substrates. The CRRC believes that the Slide Method is a more appropriate test method for any product with low thermal conductivity or high thermal mass and recommends that EPA reference requirements described in the CRRC-1 Program Manual section 2.2.5.

Thank you again for considering the CRRC's comments.

Sincerely,

Jeffrey Steuben
Cool Roof Rating Council

